

ABSTRACT OF THE DISCLOSURE

Systems and methods for back-of-die, through-wafer guided-wave optical clock distribution systems (networks) are disclosed. A representative back-of-die, through-wafer guided-wave optical clock distribution system includes an integrated circuit device with a first cladding layer disposed on the back-side of the integrated circuit device, and an core layer disposed on the first cladding layer. The core layer, the first cladding layer, or the second cladding layer can include, but is not limited to, vertical-to-horizontal input diffraction gratings, a horizontal-to-horizontal diffraction gratings, and horizontal-to-vertical output diffraction gratings.